

PATENT SPECIFICATION

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DRAWINGS ATTACHED

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(54) AN IMPROVED ASSEMBLY COMPRISING A MEMBER AND A SUPPORT THEREFOR

(71) We, SOCIETE ANONYME AUTOMOBILES CITROEN, a French Company, of 117-167 quai André Citroën, Paris 15ème, France, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The present invention relates to an assembly of a member and a support therefor, for example a vehicle light or other optical unit carried by the bodywork of the vehicle.

15 According to the present invention there is provided an assembly of a member and a support therefor, said support having an outer surface with a cavity accommodating therein said member so that the outer surface of the member substantially forms a continuation of the outer surface of that part of the support surrounding the cavity, said member comprising resilient arms engaging by means of projections thereof in corresponding apertures in the cavity, free ends of the resilient arms being accessible only from the inside of the support whereby the projections can be disengaged from the apertures to release the member.

20 30 The invention will be described in greater detail with reference to the accompanying diagrammatic drawing, in which:

Fig. 1 is a section showing a member being offered up to a support; and

25 Fig. 2 is a section showing the member secured to the support.

30 Referring now to the drawing, an optical unit 1 is arranged in front of a cavity or recess 2 made in the bodywork of a vehicle, of which a fragment of the outer section 3 is seen.

35 40 Resilient clips 4 are unitary with the optical unit 1 on which they are fixed by screws 5. The clips are provided with inwardly bent projections 6. Furthermore, they penetrate into apertures 7 provided in the base of the cavity 2, the spacing of free end portions 8 of the clips 4 being selected to correspond with that of the apertures 7.

The end portions 8 of the clip 4 are in-

clined with respect to the planes of the apertures 7. 50

It will also be noted that a conical centering boss 9 is integral with the base of the cavity 2, and is advantageously formed simultaneously to this shape with the base itself. A recess 10, having a shape complementary to the boss 9, is unitary with the casing of the optical unit 1, whilst a resilient elastomer member 11 is interposed between the boss 9 and the recess 10, when the optical unit 1 is secured to the bodywork as shown in Fig. 2. In a modification, the resilient member 11 is glued by one of its faces either to the boss 9 or to the recess 10. 55

Finally, it will be noted from Fig. 2 that the outer face 12 of the optical unit is substantially in the plane of or forms a continuation of the surface of the outer section 3 of the bodywork, when said optical unit 1 is secured to the bodywork. 60

65 The assembly in accordance with the invention facilitates rapid fixing using the following steps. The optical unit 1 is held in front of the cavity 2. The end portions 8 of the clips 4 are inserted, still by simple presentation, into the apertures 7. The unit 1 is then pushed into the cavity, the clips 4 sliding on the edges of the apertures 7 until the projections 6 engage beneath the edges of said apertures 7. In brief, a simple thrust is sufficient to secure the optical unit 1 to the bodywork. 70

75 80 It is advantageous to have the resilient member 11, because, when the optical unit 1 has been inserted into the cavity 2, the unit 1 may be slightly pushed inwardly of its final position thus compressing the member 11, and so facilitating engagement of the projections 6 beneath the edges of the apertures 7 by the resilient re-expansion of the member 11. 85

85 90 When no resilient member 11 is interposed between the boss 9 and the recess 10, the projections 6 may still be engaged beneath the edges of the apertures 7 as specified above, but the assembly must then be more accurately made in order to ensure that the projections 6 fully engage. 95

It will be noted that when the optical

unit 1 is fixed to the bodywork (Fig. 2), the end portions 8 of the clips 4 are arranged inside the bodywork opposite the outer section 3. The end portions 8 are therefore accessible only from the inside of the vehicle, from the boot for a rear optical unit, or from the engine compartment for a front optical unit. It is necessary to open the corresponding covers in order to have access to the end portions 8 and to be able to detach the unit from the bodywork. This is advantageous, as it ensures against theft.

In order to reinforce this anti-theft measure, once the units 1 are fixed, the face 12 and the section 3 are substantially arranged in a common surface. In this way, the unit 1 cannot even be gripped after it has been secured.

When it is desired legitimately to detach the unit by acting from the interior of the vehicle on the ends of the resilient clips 4, the energy accumulated by the compression of the resilient member 11 is released, and this promotes the ejection of the optical unit. This ejection enables the optical unit to come out partially from the cavity 2 and facilitates the prehension necessary for complete removal.

The role of the boss 9 and the recess 10 is to ensure centering of the optical unit 1 in the cavity 2, as the boss and recess are of complementary shape.

Several other advantageous characteristics of the fixing device will also be noted. From these characteristics, the aesthetic appearance of vehicles equipped as described hereinbefore is improved as much by the elimination of the frame and support elements or conventional fixing screws, as by the continuous outer section of the bodywork at the location of the optical units 1.

The boss 9 may alternatively be unitary with the optical unit 1, the recess 10 then being unitary with the base of the cavity 2. Furthermore, there may be a plurality of bosses and depressions. It is also understood

that the fixing device described for an optical unit 1 on the bodywork of a vehicle may advantageously be selected for fixing any element on a support, whatever the support.

WHAT WE CLAIM IS:—

1. An assembly of a member and a support therefor, said support having an outer surface with a cavity accommodating therein said member so that the outer surface of the member substantially forms a continuation of the outer surface of that part of the support surrounding the cavity, said member comprising resilient arms engaging by means of projections thereof in corresponding apertures in the cavity, free ends of the resilient arms being accessible only from the inside of the support whereby the projections can be disengaged from the aperture to release the member. 55

2. An assembly according to claim 1 wherein the member abuts the support by means of at least one centering projection on one of the member and the support and the projection cooperates with a recess formed in the other of the member and the support. 60

3. An assembly according to claim 2 wherein a resilient member is interposed between the centering projection and the recess. 65

4. An assembly according to any one of claims 1 to 3 wherein the support takes the form of vehicle bodywork and the member is constituted by an optical unit. 70

5. An assembly of a member and support therefor substantially as hereinbefore described with reference to the accompanying drawing. 80

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MATHISEN & MACARA,
Chartered Patent Agents,
Lyon House, Lyon Road,
Harrow, Middlesex, HA1 2ET,
Agents for the Applicants.

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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale*

